Amendments to the Specification:

Please replace the paragraph beginning at page 10, line 14, with the following rewritten paragraph:

In operation of the self-adjusting OADM 304, a WDM signal comprising the set of wavelengths (channels) λ_1–λ_n is delivered to the OADM 304 through input port 402. The first optical filter 406a removes ("drops") a channel (for instance λ_1) from the input WDM signal and passes the other "express" channels λ_2–λ_n through to the express line 404. The dropped channel λ_1 first experiences L_1 insertion loss (in units of dB) from the drop filter. Then, a predetermined x% of the remaining power of the dropped channel λ_1 is tapped by x% tap 414. The tapped signal is a first monitoring signal that is delivered to the controller 420 via the first tap line 422. The optical power, P_1, of the first monitoring signal is equal to

~~$P_1 = In - L_1 + 10\log(x\%)$~~ $P_1 = P_{inp} - L_1 + 10\log(x\%)$

(1)

where [[In]] P_{inp} is the power (in [[dBm]] dB) of every input channel before it enters into self-adjusting OADM 304.

Please replace the paragraph beginning at page 11, line 1, with the following rewritten paragraph:

The express channels λ_2–λ_n, which are not dropped by the drop filter 406a, encounter the second "add filter" 406b after experiencing some small insertion loss L_2 dB from the first "drop" filter 406a. The function of the add filter [[406a]] 406b is to combine another channel λ_1' usually at the same wavelength as λ_1, to the express channels. The channel λ_1' is delivered to the filter 406b through the add line 410. At the output 412 of the OADM 304, there may be the same number of channels as at the input 402. However, the added wavelength λ_1' contains new signal information from the local node at which the self-adjusting OADM 304 is located. The power of each of the express channels λ_2–λ_n at the output is given by:

~~$P_{express} = In - L_2 - L_3$~~ $P_{express} = P_{inp} - L_2 - L_3$

(2)

where L_3 is the insertion loss (in dB) introduced by the add filter to the express channels.

Please replace the paragraph beginning at page 11, line 19, with the following rewritten paragraph:

When entering into the controller 420 the second tapped signal has power level P_2 that is given by:

$$P_2 = P_{add} - L + 10\log(y\%)$$

(4)

The function of the controller 420 is to provide a control signal 426 to the VOA 418 so that the VOA 418 provides an appropriate attenuation L so that

$$P_{add,out} = P_{express}$$

(5)

Then, from Eqs. 2, 3, 4, and 5, it follows that

~~$P_2 = In - L_2 - L_3 + 10\log(\frac{y\%}{1-y\%}) + L_4$~~ $P_2 = P_{inp} - L_2 - L_3 + 10\log(\frac{y\%}{1-y\%}) + L_4$

(6)

The power level P_1, which is acquired by the controller 420 provides the input power level [[In]] P_{inp}. Introducing Eq. 1 to Eq. 6 results in:

$$P_2 = P_1 + L_1 - 10\log(x\%) - L_2 - L_3 + 10\log(\frac{y\%}{1-y\%}) + L_4$$

(7)

In Eq. 7, $L_1 - L_4$ are known from the filter properties and P_1 is collected by the controller 420 through the first tap line 422. If the control signal 426 adjusts the VOA

in such way that P_2 satisfies Eq. 7, then all channels output from the OADM 304 will have the same power level. In the present invention, OADM 304 is self-adjusting so that there is no need of any external control.